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1	Q D	I	V Q	L M	T T	Q Q	s s	P P	A S	I T	M L	s s	A A	s s	P V	G G	E D	K R	V V	T T
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41	G	K	A	P	K	L	L	<u>M</u>	Y	K	A	S	S	L	E	S	G	V	P	S
60	R	F	S	G	s	G	s	G	T	S	Y	s	L	T	I	s	R	M	E	A
61	R	F	I	G	s	G	s	G	T	E	F	T	L	T		s	S	L	Q	P
80	E	D	A	A	T	Y	Y	C	H	Q	R	s	T	Y	P	L	T	F	G	s
81	D	D	F	A	T	Y	Y	C	Q	Q	Y	N	S	D	S	K	M	F	G	Q
100 101	G G	T T	K K	L V	E E	L V	K K													

FIGURE 1A

1	Q Q	V V	Q Q	L L	Q V	Q Q	s s	G G	A A	E	L V	A K	K K	P P	G G	A S	s s	V V	K K	M V
21 21	s s	C	K K	A A	s s	G G	Y G	T T	F F	T S	S R	Y S	R A	M I	H I	W W	V V	K R	Q Q	R A
41 41	P P	G G	Q Q	G G	L L	E E	W W	I <u>M</u>	G G	Y G	I I	N V	P P	S M	T F	G G	Y P	T P	E N	<u>Ү</u>
61 61	N A	Q Q	K K	F F	K Q										s s					Y Y
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FIGURE 1B

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21 21	I L	S S	C C	R R	A A	S S	Q		V	S	T T	S	T T	Y Y_	N N	Y Y	M M	Н <u>Н</u>	W W	Y Y
41 41	Q Q	Q Q	K K	P P	G <u>G</u>	Q <u>Q</u>	P S	P P	K R	L L	L L			Y <u>Y</u>	A A	S S	N N		E	S S
61 61	G G	V I	P P	A A	R R	F F	S S	G G	S S	G G	F S	G G	T T	D E	F F	T T	L L	N T	I	H S
81 81	Р <u>R</u>	V L	E E	E S	E E	D D	T F	V A	T V	Y Y	Y Y	C C	Q Q	H H	S S	W	E E	I I	P P	Ү <u>Ү</u>
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FIGURE 2A

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21 21	S S	C C	A A	A A	S S	G G	F F	T T	F F	S S	N N	Y Y	G G	L L	S S	W W	V V	R R	Q Q	T A
41 41	S P	D G	R K	R G	L L	E E	W	V V		S S	I I	S S	R R	G G	G G	G G	R Ř	I T	Y Y	S S
61 61	P P	D D	N N	L L	K K	G G	R R	F F	T T	I	S S	R R	E N	D D	A S	K K	N N	T T	L L	Y Y
81 81	L L	00	M M	S N	S S	L L	K Q	S A	E E	D D	T T	A A	L L	Y Y	Y Y		L L	R	E E	G G
101 101	I I	Y Y	Y Y	A A	D D	Y Y	G G	F F	F F	D D	V V	W W	G G	T Q	G G	T T	T L	V V	I T	V V
121 121	S S	S S					۸			-										

FIGURE 2B

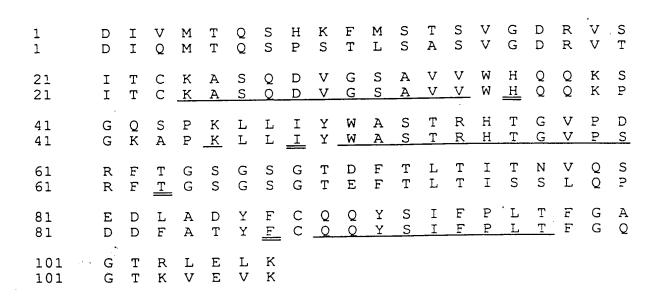


FIGURE 3A

1	Q Q	V V	Q Q	L L	Q V	Q Q	S S	D G	A A	E E	L V	V K	K K	P P	G G	Λ S	s s	V V	K K	I V
21 21	S S	C C	K K	V A	S S		Y Y	T T	F F	T T	D D	H H		I I	Н Н	W W	M <u>M</u>	K R	Q Q	R A
4 <u>1</u> 41	P P	E G	Q Q	G G	L L	E	W W	ਜ ਜੁ	G G	Ү <u>Ү</u>	I	Y Y	P P_	R R	D D	G G	H	T	R R	v v
61 61	S A	E E	K K	F F	K K	G G	K K	А <u>А</u>	T T	L I	T T	A A	D D	K E	S S	A T	S N	T T	A A	Y Y
81 81	M M	H E	L L	N S	S S	L L	T R	S S	E E	D D	S T	A A		Y	F F	C C	A A	R R	G G	R <u>R</u>
101 101	D D	S S	R R	E E	R R	N	G G	F F	A A	Y Y	W W	G <u>G</u>	Ω <u>Ο</u>	G G	T 	L L	V V	T T	V	S S
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FIGURE 3B

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FIGURE 4A

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FIGURE 4B

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FIGURE 5A

1	Q E	V V		L L	K	Q E	S S	G G	P G	G G	L L	V V	Q Q	P P	S G	Q Q	S S	<u>L</u> L	S R	I L
21 21	T S			V A	S S	G G	F ·	S T		T T	\$ <u>\$</u>	Y Y	G G	V V	Н <u>Н</u>	W	I V	R R	Q Q	S A
41 41	P P	G G	K K	G G	L L	E E	W W	L V	G G	<u>v</u>	I Ţ	W W	S S	G G	G G	S S			Ā Ā	N N
61 61	A <u>A</u>			I I	S S	R R	L F	T T	I	S S	K R	D <u>D</u>	N N	S S	K K	S N	Q T	V L	F Y	F L
81 81	K Q	V M	N N	S _S	L L	Q Q	P A	A E	D D	T T	A	I			СС	A A	R R	A _A_	G G	D D
101 101	Y _Y	N N	Ү <u>Ү</u>	D D	G G	F F	A A	Y <u>Y</u>	W	G G	Q Q	G G	T T	L L	V V	T T	V V	S S	A S	

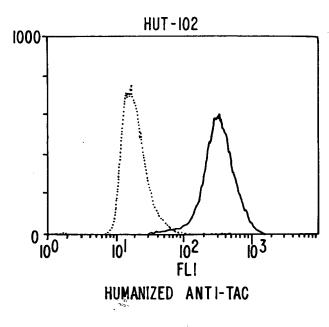
FIGURE 5B

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FIGURE 6A

1	E Q	v v	Q Q	L L	Q <u>V</u>	Q Q	S	G G	P A	E E	L V	V K	K	P P	G G	<u>A</u> S	S S	M V	K R	ĭ
21 21	S S	C C	K K	A <u>A</u>	S S	V G.	<u>Ү</u>	S S	F F	T - T	G G	Y Y	T T	M M	N N	W	V V	K R	Q Q	S A
4 1 4 1	H P	G G	Q K	N G	L L	E E		I V	G G	L L	I I	N N	P P	Y Y	N N	G G	G	T T	S S	Ā Ā
61 61	N N	Q Q	K	F F	K K	G G	K R	A V	T T	L V	T S	V L	D K	K P	S S	S F	N N	T Q	A A	<u>×</u>
81 81	M M	E E	L L	L S	S S	L L	T F	S S	A E	D D	S T	A A	V V	Y Y	Y Y	C	T T	R	R R	G G
101	F F	R R	D D	Y Y	S S	М М	D D	<u>ү</u>	W	G G	Q Q	G G	T T	S L	V V	T	V	S S	S S	

FIGURE 6B



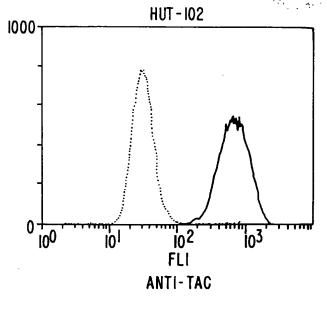
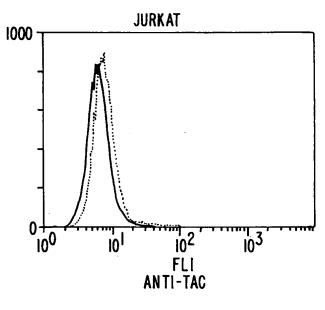


FIGURE 7A

FIGURE 7B



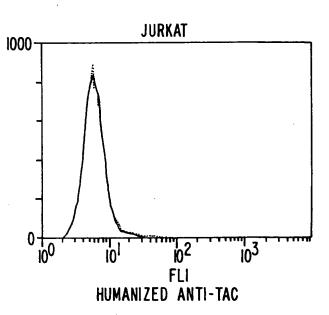


FIGURE 7C

FIGURE 7D

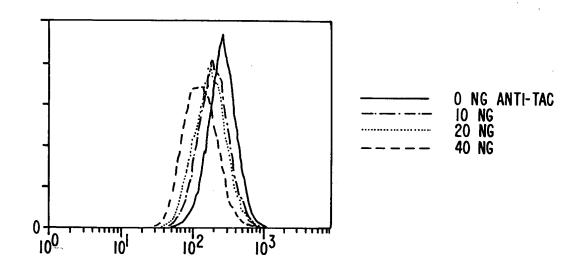


FIGURE 8A

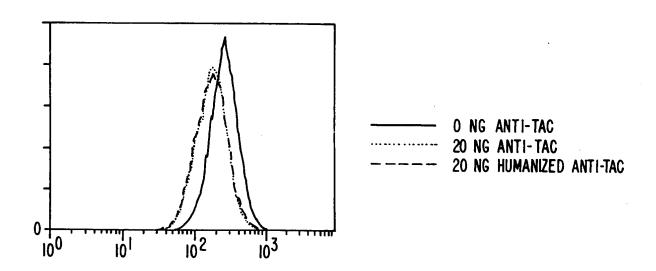
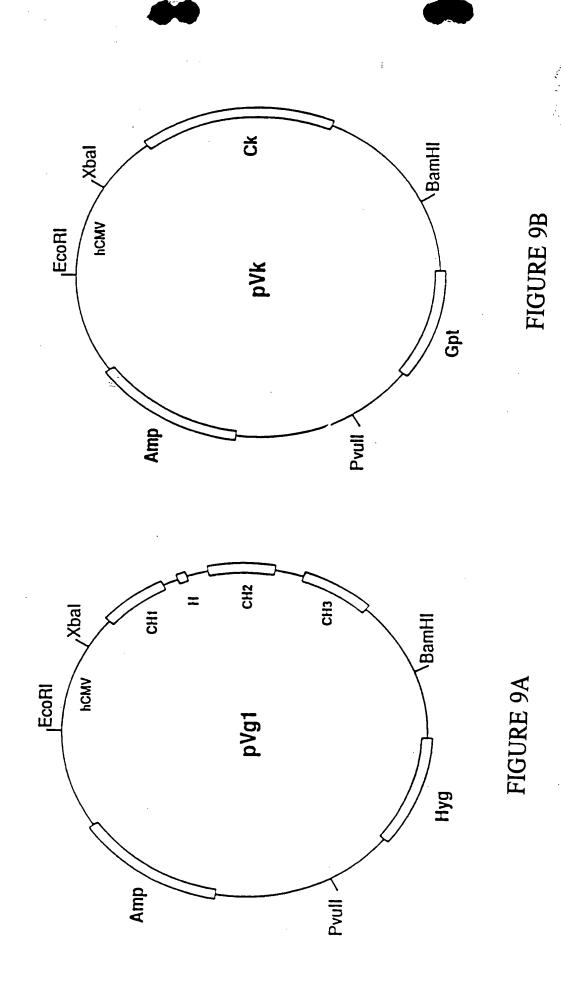


FIGURE 8B

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FIGURE 10A



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FIGURE 10B

10	CACTCTCAGG GTGAGAGTCC	140 GCAAGGCTTC CGTTCCGAAG	210 GGAATGGATG CCTTACCTAC	280 ACAATTACTG TGTTAATGAC	350 CATTCTATTT GTAAGATAAA	420 CTCAGGTGAG GAGTCCACTC
9	CGCGGGCGTG	130 AAGGTCTCCT TTCCAGAGGA	200 GACAGGGTCT CTGTCCCAGA	270 GGACAGGGTC CCTGTCCCAG	340 GAGGACACCG CTCCTGTGGC	410 TCACAGTCTC AGTGTCAGAG
50	TGTCAGGTAC ACAGTCCATG	120 CTCGAGCGTG GAGCTCGCAC	190 CAGGCCCTG GTCCGGGGAC	260 AGAAGTTCAA TCTTCAAGTT	330 CCTGAGATCT GGACTCTAGA	400 GGAGGGCTGG TCACAGTCTC CTCAGGTGAG CCTCCCGACC AGTGTCAGAG GAGTCCACTC
40	CTCTTCCTCC	110 AGAAACCTGG TCTTTGGACC	180 CTGGGTAAGG GACCCATTCC	250 GAATACAATC CTTATGTTAG	320 AACTGAGCAG TTGACTCGTC	390 CGAATACAAT GCTTATGTTA
30	AGCTTCTAGA TGGGATGGAG CTGGATCTTT CTCTTCCTCC TGTCAGGTAC CGCGGGGCGTG CACTCTCAGG TCGAAGATCT ACCCTACCTC GACCTAGAAA GAGAAGGAGG ACAGTCCATG GCGCCGCAC GTGAGAGTCC	80 90 130 140 TCCAGCTTGT CCAGTCTGGG GCTGAAGTCA AGAAACCTGG CTCGAGGGTG AAGGTCTCCT GCAAGGCTTC AGGTCGAACA GGTCAGACCC GGACTTCAGT TCTTT <u>GGACC GAGCTCGCAC TTCCAGAGGA CGTTCCGAAG</u>	150 160 170 170 210 180 190 200 200 200 TGGGGGGGGGGGGGGGGGGGGGGGGG	220 230 240 250 250 260 270 280 260 270 280 270 280 270 200 270 280 270 270 200 270 200 270 200 270 200 20	290 340 310 320 320 330 350 CAGAGAATC CACCAATAGA GCCTACATGG AACTGAGGA CCTGAGATCT GAGGACACCG CATTCTATTT GAGGATATATTT GAGGATATATTT GAGGATGTATGT	350 370 380 380 420 CTGTGCAGGG GGTGGGGGAG TCTTTGACTA CGAATACAAT GGAGGGCTGG TCACAGTCTC CTCAGGTGAG GACACGTCCC CCACCCCTC AGAAACTGAT GCTTATGTTA CCTCCCGACC AGTGTCAGAG GAGTCCACTC
20	TGGGATGGAG ACCCTACCTC	90 CCAGTCTGGG GGTCAGACCC	160 TTTTCTAGCT AAAAGATCGA	230 ATCCGTCGAC TAGGCAGCTG	300 CACCAATACA GTGGTTATGT	370 GGTGGGGGAG CCACCCCTC
10	AGCTTCTAGA TCGAAGATCT	80 TCCAGCTTGT AGGTCGAACA	150 TGGCGGGACC ACCGCCCTGG	220 GGATATTA CCTATATAAT	290 340 310 320 320 320 340 CAGAGGATC CACCAATACA GCCTACATGG AACTGAGGAG CCTGAGATCT GAGGACACCG CATTCTATTT GTGCAATG GTGGTTATGT CGGATGTACC TTGACTCGTC GGACTCTAGA CTCCTGTGGC GTAAGATAAA	360 CTGTGCAGGG GACACGTCCC

FIGURE 11A

(2)

430 440 TCCTTAAAAC CTCTAGACGA TAT AGGAATTITG GAGATCTGCT ATA

10	20	30	40	50	60	7.0
CAAATCTAGA	TGGAGACCGA	CAAATCTAGA TGGAGACCGA TACCCTCCTG CTATGGGTCC TCCTGCTATG GGTCCCAGGA TCAACCGGAG GTTTAGATCT ACCTCTGGCT ATGGGAGGAC GATACCCAGG AGGACGATAC CCAGGATACT AGTTGCCTTC	CTATGGGTCC	TCCTGCTATG AGGACGATAC	GGTCCCAGGA	TCAACCGGAG
80	06	100	110	120	130	
ATATTCAGAT	GACCCAGTCT	ATATICAGAT GACCCAGICT CCATCTACCC ICTCTGCTAG CGTCGGGGAT	TCTCTGCTAG	CGTCGGGGAT	AGGTCACCA TAACCTGCTC	TAACCTGCTC
TATAAGTCTA	CTGGGTCAGA	TATAAGTETA ETGGGTEAGA GGTAGATGG <u>G AGAGAEGATE GEAGEECETA TECCAGTGGT ATTGGAEGAG</u>	AGAGACGATC	GCAGCCCCTA	TCCCAGTGGT	ATTGGACGAG
150	160	170	180	190	200	210
TGCCAGCTCA	AGTATAAGTT	TGCCAGCTCA AGTATANTIA ACATGCACTG GTACCAGCAG AAGCCAGGCA AAGCTCCCAA GCTTCTAATG	GTACCAGCAG	AAGCCAGGCA	AAGCTCCCAA	GCTTCTAATG
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220	230	240	250	260	270	280
TATACCACAT	CCAACCTGGC	TATACCACAT CCAACCTGGC TTCTGGAGTC CCTTCTCGCT TCATTGGCAG TGGATCTGGG ACCGAGTTCA	CCTTCTCGCT	TCATTGGCAG	TCGATCTCCC	ACCUAGTTCA
ATATGGTGTA	GGTTGGACCG	<u>AIA</u> TGGTGTA GGTTGGACCG AAGACCTCAG GGAAGAGCGA AGTAACCGTC ACCTAGACCC TGGCTCAAGT	GGAAGAGCGA	AGTAACCGTC	ACCTAGACCC	TGGCTCAAGT
290	300	310	320	330	340	350
CCCTCACAAT	CAGCTCTCTG	CCCTCACAAT CAGCTCTCTG CAGCCAGATG ATTTCGCCAC TTATTACTGC CATCAAAGGA GTACTTACCC	ATTTCGCCAC	TTATTACTGC	CATCAAAGGA	GTACTTACCC
GGGAGTGTTA	GTCGAGAGAC	GGGAGTGTTA GTCGAGAGAC GTCGGTCTAC TAAAGCGGTG AATAATGACG GTAGTTTCCT CATGAATGGG	TAAAGCGGTG	AATAATGACG	GTAGTTTCCT	CATGAATGGG
360	370	380	390	400		
ACTCACGTTC	GGTCAGGGGA	ACTCACGITC GGTCAGGGGA CCAAGGTGGA GGTCAAACGI AAGTACACIT TICTAGATAT	GGTCAAACGT	AAGTACACTT	TTCTAGATAT	⋖
TGACTGCAAG	CCAGTCCCCT	TGAGTGCAAG CCAGTCCCCT GGTTCCACCT CCAGTTTGCA TTCATGTGAA AAGATCTATA	CCAGTTTGCA	TTCATGTGAA	AAGATCTATA	: [

FIGURE 11B

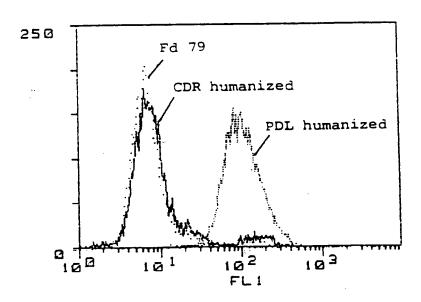


FIGURE 12

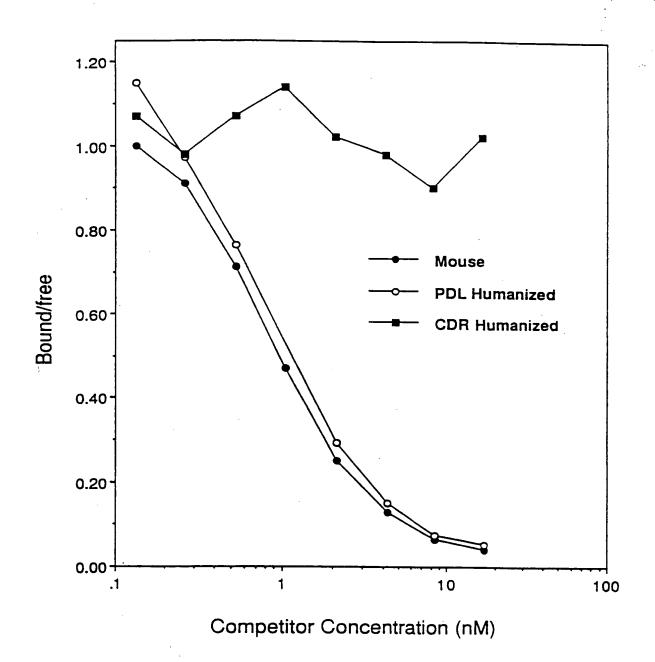


FIGURE 13

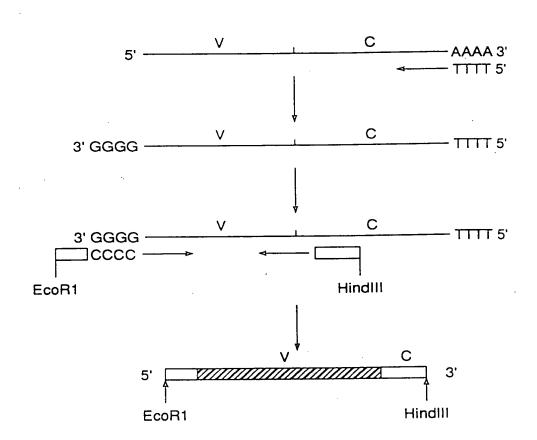


FIGURE 14

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20 30 40 50 TCTAGATG GGATGGAG CTG GATCTTTCTCTTCCTCCTG TCAGGTACCGCGGGGCGTGCACT M G W S W I F L F L L S G T A G V H 90 100 110 CTCAGGTC CAGCTTG TCCAGTCTG GGG CTGA AG TCA AG A ACCTG GCT CG AG CG TGA AG G SQVQLVQSGAEVKKPGSSVK 140 150 160170 TCTCCTGCAAGGCTTCTGGCTACACCTTTACTAGCTACAGGATGCACTGGGTAAGGCAGG V S C K A S G Y T F T S Y R M H W V R Q 200 210 220 230 CCCCTGG A CĂGGG TC TG GĂĂ TG GATTG GĂ TATATTA A TC CG TC GAC T GĞ GT A TA C TG Ā Ā T A P G Q G L E W I G Y I N P S T G Y T E 250 260 270 280 290 300 ACAATCAGAAGT TCAAGGACAAGGCAACAATTACTGCAGACGAATCCACCAATACAGCCT YNQKFKDKATITADESTNTA 310 320 330 340 350 360 ACATGG AACTGA GCAG CCTGAGATCTGAGGACACCG CAGT CTATTACTGTG CAA GAGGGG Y M E L S S L R S E D T A V Y Y C A R G 390 400 410 GG GG G GT Č TTT G A C TA C TĞĞ G GC CAAG Ğ ĂĂC C C T G T CĂČ A G T C T C C T C ĂG G T G A G T C C T G G V F D Y W G Q G T L V T V S S 430 TAAAACCTCTAGA

FIGURE 17

30 40 TCTAGATGGAGACCGATACCCTCCTGCTATGGGTCCTCCTGCTATGGGTCCCAGGATCAA M E T D T L L L W V L L L W V P G S 100 CCGGAGATATTCAGATGACCCAGTCTCCATCTACCCTCTCTG CTAGCGTCGGGGATAGGG T G D I Q M T Q S P S T L S A S V G D R 170 140 150 160 TCACCATAACCTGCTCTGCCAGCTCAAGTATAAGTTACATGCACTGGTACCAGCAGAAGC V T I T C S A S S S I S Y M H W Y Q Q K 200 210 220 CAGGCAAAĞCTCCCAAGCTTCTAATTTATACCACATCCAACCTGGCTTCTGGAGTCCCTG P G K A P K L L I Y T T S N L A S G V 270 290 260 280 CTCGCTT CĂGTGG CAGTGGATCTGGGACCGAGTTCACCCTCACA ATCĂGCTCTCTG CĂĞC A R F S G S G S G T E F T L T I S S L Q 320 330 340 CAGATGATTTCGCCACTTATTACTGCCATCAAAGGAGTACTTACCCACTCACGTTCGGTC P D D F A T Y Y C H Q R S T Y P L T F G AGGGGACCAAGGTGGAGGTCAAACGTAAGTACACTTTTCTAGA OGTKVEVK

FIGURE 18

TATATTAATCCGTCGACTGGGTATACTGAATACAATCAGAGTTCAAGGACAGGCAAGACA ATTACTGCAGACGAATCCACCAATACAGCCTACATGGAACTGAGCAGCCCTGAGATCTGAG GACA HES 14 FIGURE 19A HES12 HES 12 HES13 HES 14 HES 15

FIGURE 19B

HES15

HES13

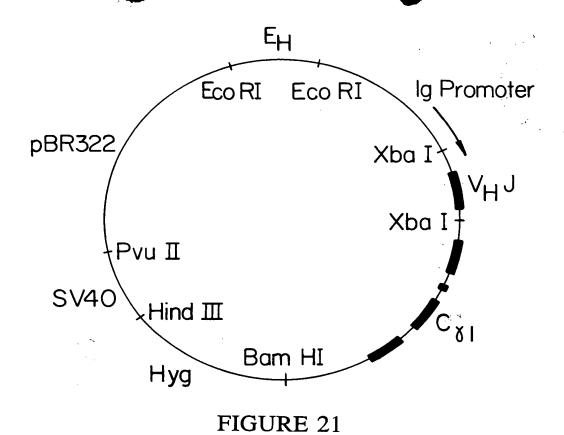
GCTCCCAAGCTTCTAATTTATACCACATCCAACCTGGCTTCTGGAGTCCCT GCTCCTTC AGTCGCTTCTGCAGTCGCTTCTCTCTCTCTCTGCAGCCTCTTCATCACCTTCACCTTCACTCAGCTTCGCAGCCAGATGATTCACCTTCTCACATCAGCTTCGCAGCCAGATGATTCA CAAATCTAGATGGAGACCGATACCCTCCTGCTATGGGTCCTCCTGCTATGGGTCCCGGGATTCAACCCAGTCACCAGTCTCCAGCGATTCAGATGACCCAGTCTCCAGTCTCAGGGGAT ATAAATTAGAAGCTT GGGAGCTTTGCCTGGCTTC TGCTGGTACCAGTGCATGTAACTTAT ACTTGAGCTGGCAGAGCAGGTTATGGTGACCCTATCCCCGAGGCTAGCAGAGAG JFD4 TATATCTAGAAAGTGTACTTA CGTTT GACCT CCA CCTTGG TC: TGGGTAAGTACTCCTTTGATGGCAGTAATAAGT GGCGAAATCA: GA JFD3 FIGURE 20A JFD2 JFD4 JFD3 JFD2 FOI

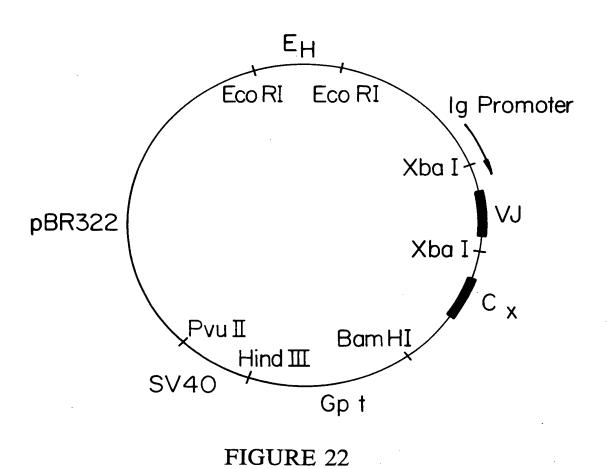
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FIGURE 20B

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ATG	GAT:	гтт	CAA	GTGC	CAGA	ATT:	TTC	AGC'	TTCC	TGC	TAF	ATC				GTC		ĴΤG'	TCC
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AGA	GGA	CAA	ATT	GTT	CTC	ACC	CAG'	TCT	CCAC	GCA <i>F</i>	ATC	ATG	TCT	GCG:	CT	CCAC	3GG(ŠCG.	AAG
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GG <i>I</i> G	T AAA	V GGG	S TCT(G GGAC	F STGG	S • • •	V GGG <i>I</i>	T AGT(AAGT <u>S</u> 210	TAT Y ATGG	G GAGT	<u>V</u> 'GG'	<u>H</u> •. rgg/	- W AAGO	I ,	R •	Q	S	240
G	T AAA(K	V GGG G	S TCT(L	G GGAC E	F GTGC W	S CTC L	V GGG <i>I</i> .G	T AGT(<u>V</u>	AAGT 210 GATA I 270	TAT Y ATGG W	G SAGT S	v rgg' g	H •. rGG! G	- W AAG(S	I CACA	R AGAC D	Q TAT Y	S 'AA' N	240 TGCA A 300
G	T AAA(K	V GGG G	S TCT(L	G GGAC E	F GTGC W	S CTC L	V GGGA G	T AGTO V CAGO	210 GATA 270 CAAG	TAT Y ATGG W OGGAC	G SAGT S	V TGG' G	H FGGA G CAA	- W AAGO S GAGO	I CACA	R AGAC D	Q TAT Y	S TAA' N CTT	240 TGCA A 300 TAAA
G GC	T AAA(K	V GGG G	S TCT(L	G GGAC E CAGA	F GTGC W	S CTC L	V GGGA G	T AGTO V CAGO	AAGT 210 GATA I 270	TAT Y ATGG W OGGAC	G SAGT S	V TGG' G	H •. rGG! G	- W AAGO S GAGO	I CACA	R AGAC D	Q TAT Y	S 'AA' N	240 TGCA A 300
G GCT A	T AAA(K TTT(F	V GGG G CAT	S . TCT(L . ATC(G E E CAG!	F GTGG W ACTG	S CTC L SACC	V G G CATO	T AGTO V CAGO S	210 GATA 270 CAAG	Y Y ATGG W GGAC	G S S CAA(V TGG' G CTC' S	H TGGA G CAAC K	AAG(S S GAG(S	I T T CCA	R AGAC D AGTI	Q TAT Y TTTC F	CAA'	240 TGCA A 300 TAAA K
G GCT A	T AAA(K TTT(F	V GGG G CAT	S . TCT(L . ATC(G E E CAG!	F GTGG W ACTG	S CTC L SACC	V GGGA G CAT(I	T AGTO V CAGO S	210 GATA 270 CAAG K 330 AGCO	TAT Y ATGG W OGGAC	GAACAACAACAACAACAACAACAACAACAACAACAACAAC	TGG' G CTC' S	TTG	AAG(S S GAG(S	I CACA	AGACO	Q TAT Y TTTC F	TAA' N CTT F	240 TGCA A 300 TAAA K 360 CTAT
GCT	T AAA(K TTT(F	V EGG G CAT I	S . TCT(L . ATC(G GGAC E CAGA R	F GTGG W ACTG	S GCTC L GACC T	V GGGA G CAT(I	T AGTO V CAGO S	210 GATA 270 CAAG	TAT Y ATGG W OGGAC	GAACAACAACAACAACAACAACAACAACAACAACAACAAC	V TGG' G CTC' S	TTG	AAG(S S GAG(S	I CACA	R AGAC D AGTI	Q TAT Y TTTC F	TAA' N CTT F	240 TGCA A 300 TAAA K
GCT	T AAA(K TTT(F GAA(V EGG G CAT I	S TCT(L ATC(S TCT(G GGAC E CAGA R	F STGG W ACTG L	S GCTC L GACC T	V GGGA G CAT(I	T AGTO V CAGO S	210 GATA 270 CAAG K 330 AGCO	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	GAACAACAACAACAACAACAACAACAACAACAACAACAAC	TGG' G CTC' S	TTG	AAG(S S GAG(S	I CACA	AGACO	Q TAT Y TTTC F	TAA' N CTT F	240 TGCA A 300 TAAA K 360 CTAT
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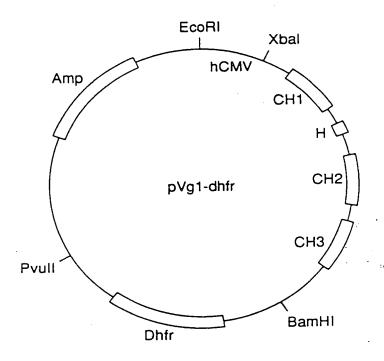


FIGURE 24A

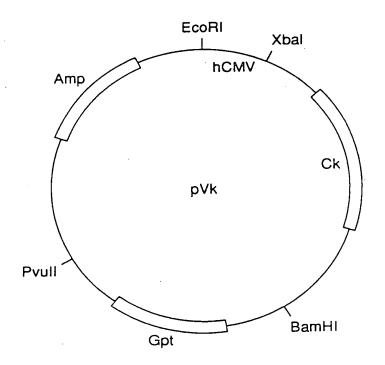


FIGURE 24B

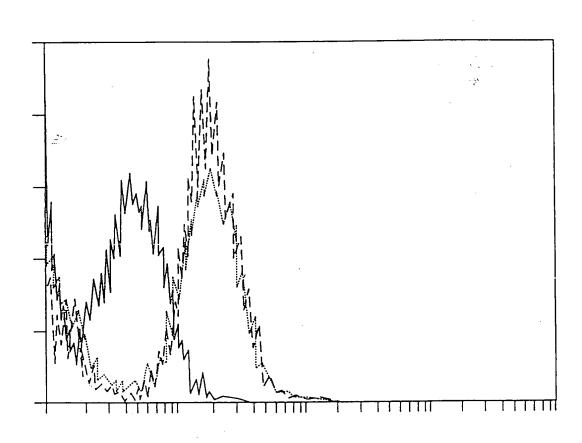


FIGURE 25

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FIGURE 26A

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FIGURE 26B

MS

vc13 10 20 30 40 50 · TTCTGCTGGT ACCAGTACAT GAAACTTACA CTTGAGCTGC CACTGCAGGT GATGGTGACG 90 100 70 80 CGGTCACCCA CTGAGGCACT GAGGCTAGAT GGAGACTGGG TCATTTG vc14 10 20 30 40 CATGTACTGG TACCAGCAGA AGCCAGGAAA AGCTCCGAAA CTTCTGATTT ATGACACATC 80 90 100 CAACCTGGCT TCTGGAGTCC CTTCCCGCTT CAGTGGCAGT GGGTCTGGGA CCGATTACAC 130 CTTTACAATC TCTTCA vc15 20 30 40 50 TGTGTCTAGA AAAGTGTACT TACGTTTTAC CTCGACCTTG GTCCCTTGAC CGAACGTGAG 90 100 110 70 80 CGGGTAAGTA CTCCACTGCT GGCAGTAATA AGTGGCTATA TCTTCCGGCT GAAGTGAAGA 130 GATTGTAAAG GTGTAAT vc16 40 50 20 30 CACATCTAGA CCACCATGGA TTTTCAAGTG CAGATCTTCA GCTTCCTGCT AATCAGTGCC

FIGURE 27A

80

TCAGTCATAC TGTCCAGAGG AGATATTCAA ATGACCCAGT CTCCATCT

vc11 TAGTCTGTCG ACCCACCACT CCATATCACT CCCACCCACT CGAGTCCCTT TCCAGGAGCC TGGCGGACCC AGTGTACACC ATAACTTGTT ACGGTGAAAC CACTGGCGGC ACAAGACAGT CTCAGAGATC CTCCTGGC vc12 TGGTGGGTCG ACAGACTATA ATGCAGCTTT CATATCCAGA TTTACCATCA GCAGAGACAA CAGCAAGAAC ACACTGTATC TCCAAATGAA TAGCCTGCAA GCCGAGGACA CAGCCATATA TTATTG wps54 ACACTCTAGA CCACCATGGC TGTCTTGGGG CTGCTCTTCT GCCTGGTGAC ATTCCCAAGC TGTGTCCTAT CCGCTGTCCA GCTGCTAGAG AGTGGTGGCG GTCTGGTGCA GCCAGGAGGA TCTCTGAGAC wps57

FIGURE 27B

ACACTCTAGA AGTTAGGACT CACCTGAAGA GACAGTGACC AGAGTCCCTT GGCCCCAGTA

AGCAAAACCG TCGTAATTAT AGTCCCCAGC TCTGGCACAA TAATATATGG CTGTGTCC

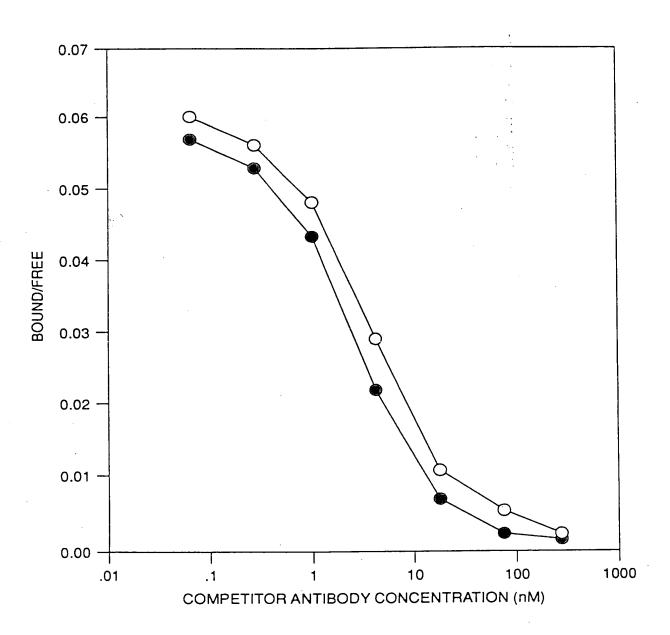


FIGURE 28

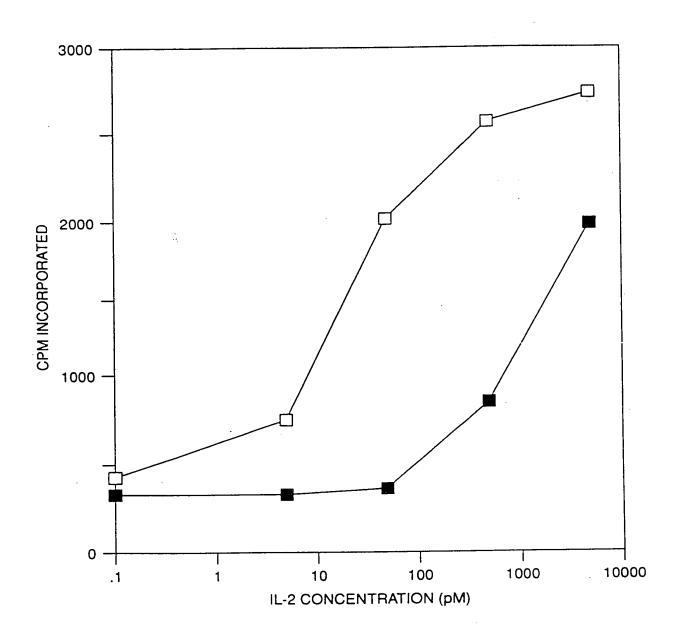
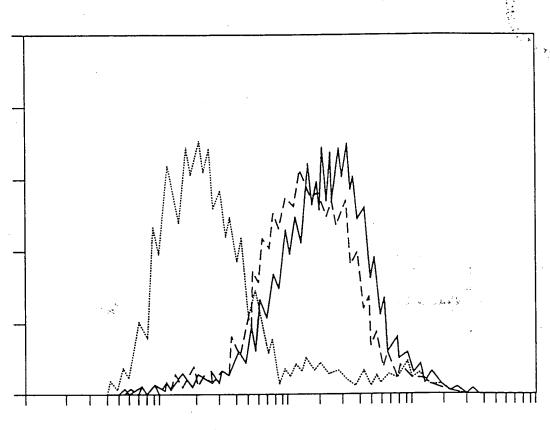


FIGURE 29

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FIGURE 30D





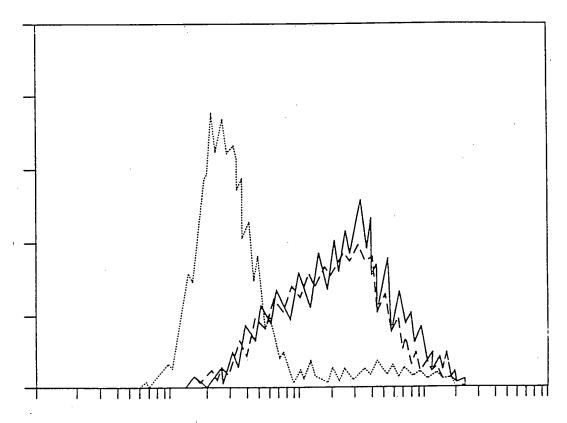


FIGURE 31B

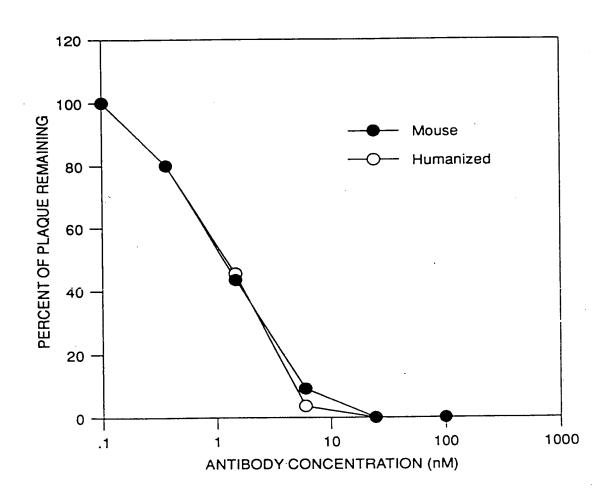


FIGURE 32A

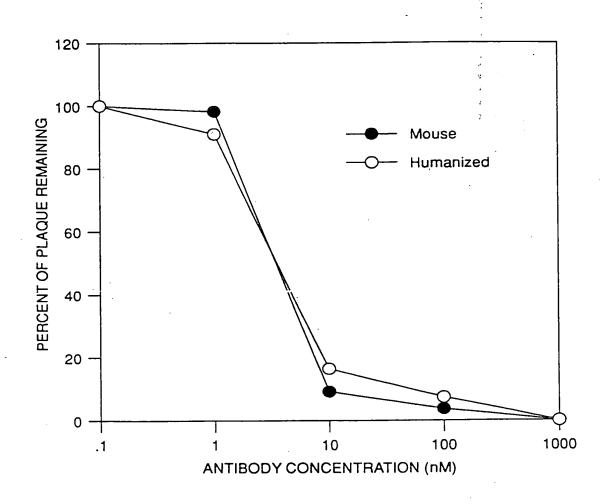
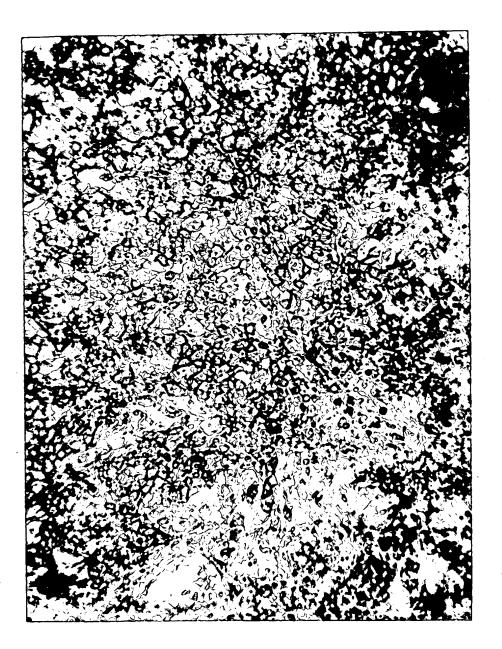


FIGURE 32B

FIGURE 33A



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C GGAC O D	AAG K AAG K GTC	A SAGO STTO F	S CCTT L CAAG K CAGC	G G E S S CTG L	Y TGG W AAG K ACA T	T . GCC A . TCT	F GGA G CACA T 'GAC E	TAT Y TTC L	150 GAC D 210 ATT I 270 GACT T 330 TCT S	TAC. Y TAT Y GTA V GCA A	AACON N CCCI P GACOD CGTC	P CATO M CTAC N CTAC Y	CAAT N TTCC S TTAC	A CTGG W CGGT G CTCC S	GTG V GGT G AGC S	V SAAG K CACT T CACA	GCAG Q GGG G A	SAGO S CTAO Y CTAO Y	240 CAAC N 300 CATG M
GGAG	AAG K AAG K GTC V	A AGC S TTC F CGC R	S CAAG K CAGC	G GAGC SAGC L CTGG	Y TGG W AAG K ACA T	T . ATT I	F GGA CACA T GAG E	T TAT Y TTC L GGAC	150 GAC D 210 ATT I 270 GACT T 330 TCT S	TAC. Y TAT Y GTA V GCA A	AAACO N CCCI P P GACO V ACCO	PCATOMY CAAC	CTCC	A CTGG G CTCC CTCA	GTG V GGT G AGC S	V SAAG K CACT T CACA	GCAG Q GGG G A	SAGO S CTAO Y CTAO Y	240 CAAC N 300 CATG M

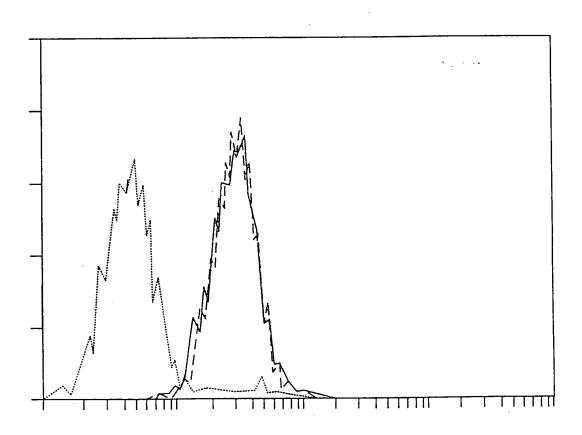


FIGURE 35

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FIGURE 36A

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FIGURE 36B

mal 20 30 40 50 10 TATATCTAGA CCACCATGGG ATGGAGCTGG ATCTTTCTCT TCCTCCTGTC AGGAACTGCT 90 100 110 80 GGCGTCCACT CTCAGGTTCA GCTGGTGCAG TCTGGAGCTG AGGTGAAGAA GCCTGGGAGC TCAGTGAAGG TT ma2 40 10 20 30 80 90 100 110 120 CCTGCCTCAC CCAGTGCATG TTGTAGTCAG TGAAGGTGTA GCCAGAAGCT TTGCAGGAAA 130 CCTTCACTGA GCT ma3 50 30 40 20 TGGTGGTACC GGCTACAACC AGAAGTTCAA GAGCAAGGCC ACAATTACAG CAGACGAGAG 90 100 80 TACTAACACA GCCTACATGG AACTCTCCAG CCTGAGGTCT GAGGACACTG CA ma4 20 30 TATATCTAGA GGCCATTCTT ACCTGAAGAG ACAGTGACCA GAGTCCCTTG GCCCCAGTAG

FIGURE 37A

90

TCCATAGCGG GGCGCCCTCT TGCGCAGTAA TAGACTGCAG TGTCCTCAGA C

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ma5 10 20 30 40 50 60 TATATCTAGA CCACCATGGA GAAAGACACA CTCCTGCTAT GGGTCCTGCT TCTCTGGGTT 90 100 80 CCAGGTTCCA CAGGTGACAT TCAGATGACC CAGTCTCCGA GCTCTCTGTC CGCATCAGTA GG ma6 40 30 20 TCAGAAGCTT AGGAGCCTTC CCGGGTTTCT GTTGGAACCA GTTCATAAAG CTAATGCCAT 80 90 100 110 AATTGTCGAC ACTTTCGCTG GCTCTGCATG TGATGGTGAC CCTGTCTCCT ACTGATGCGG AC ma7 30 40 50 10 20 TCCTAAGCTT CTGATTTACG CTGCATCCAA CCAAGGCTCC GGGGTACCCT CTCGCTTCTC 100 80 90 AGGCAGTGGA TCTGGGACAG ACTTCACTCT CACCATTTCA TCTCTGCAGC CTGATGACT ma8 40 30 20 TATATCTAGA CTTTGGATTC TACTTACGTT TGATCTCCAC CTTGGTCCCT TGACCGAACG 90 100 TCCACGGAAC CTCCTTACTT TGCTGACAGT AATAGGTTGC GAAGTCATCA GGCTGCAG

FIGURE 37B

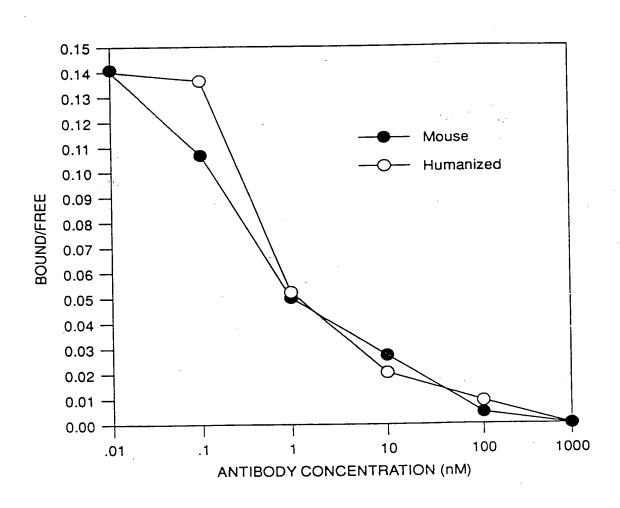


FIGURE 38

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	ATG	GTT'	TTC.	ACA						CTTA.					$\mathop{\mathrm{ATT}}_{_{_{\scriptscriptstyle{ o}}}}$		GCC:		AGA R	.GGT G
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FIGURE 40A

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FIGURE 40B

jb16 50 30 40 20 TAGATCTAGA CCACCATGGT TTTCACACCT CAGATACTAG GACTCATGCT CTTCTGGATT 110 100 90 80 TCAGCCTCCA GAGGTGAAAT TGTGCTAACT CAGTCTCCAG GCACCCTAAG CTTATCACCG GGAGAAAGG jb17 10 20 30 40 TAGACAGAAT TCACGCGTAC TTGATAAGTA GACGTGGAGC TTGTCCAGGT TTTTGTTGGT 80 90 100 110 ACCAGTGTAG GTTGTTGCTA ATACTTTGGC TGGCCCTGCA GGAAAGTGTA GCCCTTTCTC CCGGTGAT jb18 50 20 30 40 AAGAGAATTC ACGCGTCCCA GTCCATCTCT GGAATACCCG ATAGGTTCAG TGGCAGTGGA 90 100 80 TCAGGGACAG ATTTCACTCT CACAATAAGT AGGCTCGAGC CGGAAGATTT TGC jb19 40 20 30 TAGATCTAGA GTTGAGAAGA CTACTTACGT TTTATTTCTA CCTTGGTCCC TTGTCCGAAC 90 100 80 GTATGAGGCC AACTGTTACT CTGTTGACAA TAATACACAG CAAAATCTTC CGGCTC

FIGURE 41A

jb20 10 20 30 40 50 60 TATATCTAGA CCACCATGGG ATGGAGCTGG ATCTTTCTCT TCCTCCTGTC AGGAACTGCA 40 110 100 90 70 80 GGTGTCCACT CTCAAGTCCA ACTGGTACAG TCTGGAGCTG AGGTTAAAAA GCCTGGAAGT 130 TCAGTAAGAG TTTC jb21 20 30 40 50 10 TATATAGGTA CCACCATTGT AAGGATTAAT AAGTCCAACC CACTCAAGTC CTTTTCCAGG 100 . 110 90 80 TGCCTGTCTC ACCCAGTTCA TGGTATACCC AGTGAATGAG TATCCGGAAG CTTTGCAGGA 130 AACTCTTACT GAAC jb22 50 10 20 30 40 TATATAGGTA CCAGCTACAA CCAGAAGTTC AAGGGCACAG TTACAGTTC TTTGAAGCCT 100 90 80 TCATTTAACC AGGCCTACAT GGAGCTCAGT AGTCTGTTTT CTGAAGACAC TGCAGT jb23

20

80

30

90 TCCATAGAAT AGTCTCGAAA CCCCCGTCTT CTACAGTAAT AGACTGCAGT GTCTTC

FIGURE 41B

TATATCTAGA GGCCATTCTT ACCTGAGGAG ACGGTGACTA AGGTTCCTTG ACCCCAGTAG

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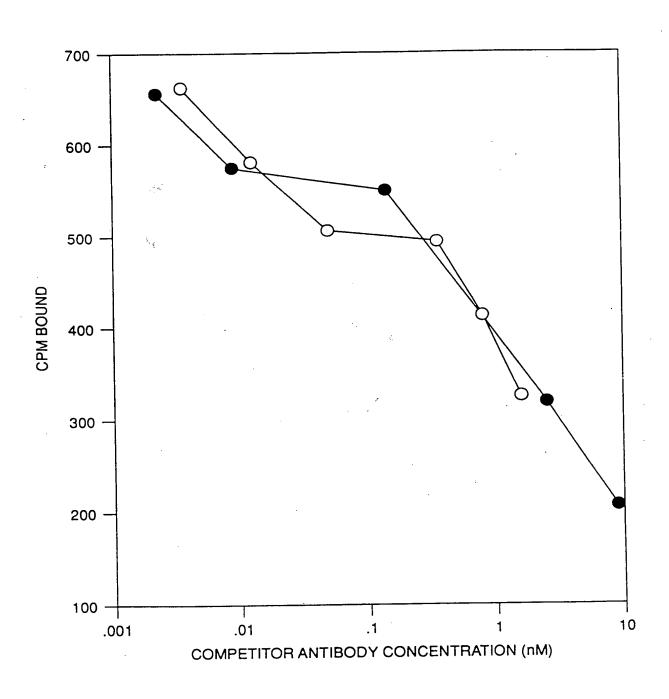


FIGURE 42

			•			•			30				•			•			60
ATG	САТ	CAG	ACC	AGC	ATG	GGC	ATC	AAG	ATG	GAA	TCA	CAG	ACT	CTG	GTC	TTC	ATA	TCC	ATA
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CTG	CTC	TGG	TTA	TAT	GGT	GCT	CAT	GGG	AAC.	ATT	GTT	ATG	ACC	CAA	TOT	CCC	AAA	TCC	ATG
L	L	W	L	Y	G	Α	D	G	N	I	V	M	T	Q	S,	P	K	S	M
			•			•			150				•			•			180
TAC	GTG	TCA	ATA	GGA	GAG	AGG	GTC	ACC	TTG.	AGC	TGC	AAG	GCC	AGI	'GAA		GTG	GAI	'ACT
Y	V	S	I	G	Ε	R	V	T	L	S	С	K	A	<u>. s</u>	E	N	<u></u>	D	<u>T</u>
			•			۰			210				•			•			240
TAT	GTA	TCC	TGG	TAT	CAA	CAG	AAA	CCZ	AGAG	CAG	TCT	CCI		CTC	CTG	ATA	TAT	'GGC	
Y	V	S	W_	Y	Q	Q	K	P	E	Q	S	P	K	L	L	Ι	Y	<u>_G</u>	<u>A</u>
	·																		
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TCC.	AAC	CGG	TAC	ACI	'GGG				CGC								LACA	GAT	
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			•			۰			330				•						360
	CTG	ACC	ATC			-	CAG		rgaa							_			
T	L	T	I	S	S	V	Q	Α	E	D	L	Α	D	Y	Н	С	<u>_</u> G	Q	<u>S</u>
			•			•			390				•			_			
TAC	AAC	TAT	CCA	TTC	CACG		GGC		GGG	ACA		TTC	GA <i>I</i>	AT'A	AAAG	,			
<u>Y</u>	N	Y	P	F	<u>T</u>	F	G	S	G	T	K	L	E	I	K				

FIGURE 43A

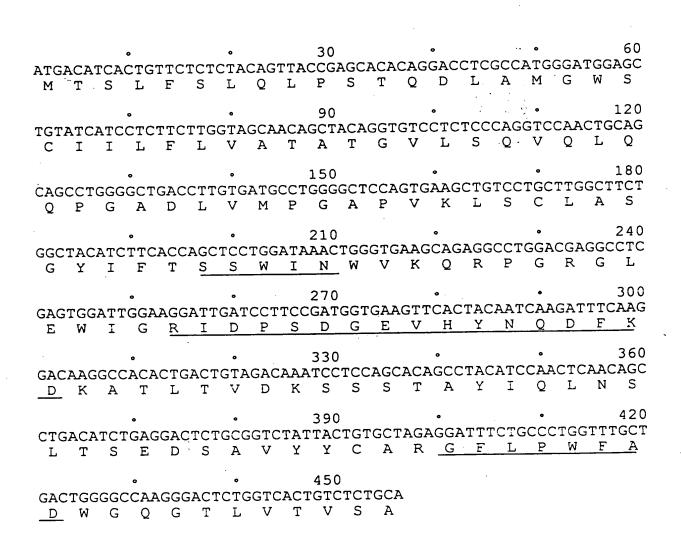


FIGURE 43B

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FIGURE 44A

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FIGURE 44B

rh10 50 10 20 30 40 TTTTTTCTAG ACCACCATGG AGACCGATAC CCTCCTGCTA TGGGTCCTCC TGCTATGGGT 100 70 80 90 CCCAGGATCA ACCGGAGATA TTCAGATGAC CCAGTCTCCG TCGACCCTCT CTGCT rh11 50 40 30 20 TTTTAAGCTT GGGAGCTTTG CCTGGCTTCT GCTGATACCA GGATACATAA GTATCCACAT 80 90 100 110 TTTCACTGGC CTTGCAGGTT ATGGTGACCC TATCCCCGAC GCTAGCAGAG AGGTTCCACG rh12 50 40 30 20 TTTTAAGCTT CTAATTTATG GGGCATCCAA CCGGTACACT GGGGTACCTT CACGCTTCAG 70 80 90 100 110 TGGCAGTGGA TCTGGGACCG ATTTCACCCT CACAATCAGC TCTCTGCAGC CAGATGAT rh13 20 30 40 50

FIGURE 45A

TTTTTCTAG AGCAAAAGTC TACTTACGTT TGACCTCCAC CTTGGTCCCC TGACCGAACG

70 80 90 100 110 120 TGAATGGATA GTTGTAACTC TGTCCGCAGT AATAAGTGGC GAAATCATCT GGCTCCAGAG

TTTTTCTAGA CCACCATGGG ATGGAGCTGG ATCTTTCTCT TCCTCCTGTC AGGTACCGCG GGCGTGCACT CTCAGGTCCA GCTTGTCCAG TCTGGGGCTG AAGTCAAGAA ACCT rh21 30 40 TTTTGAATTC TCGAGACCCT GTCCAGGGGC CTGCCTTACC CAGTTTATCC AGGAGCTAGT AAAGATGTAG CCAGAAGCTT TGCAGGAGAC CTTCACGGAG CTCCCAGGTT TCTTGACTTC Α rh22 TTTTGAATTC TCGAGTGGAT GGGAAGGATT GATCCTTCCG ATGGTGAAGT TCACTACAAT CAAGATTTCA AGGACCGTGT TACAATTACA GCAGACGAAT CCACCAATAC AGCCTACATG GAACTGAGCA GCCTGAG

TTTTTCTAGA GGTTTTAAGG ACTCACCTGA GGAGACTGTG ACCAGGGTTC CTTGGCCCCA

GTCAGCAAAC CAGGGCAGAA ATCCTCTTGC ACAGTAATAG ACTGCAGTGT CCTCTGATCT

FIGURE 45B

rh20

rh23

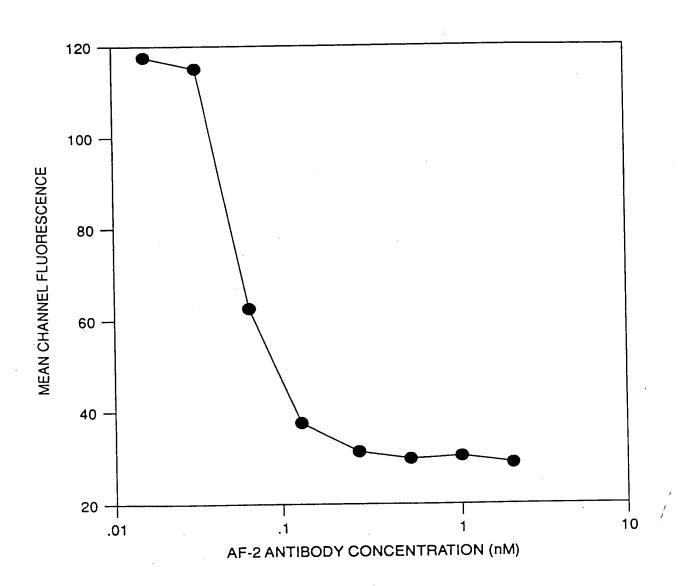
CAGGCTGCTC AGTT 

FIGURE 46